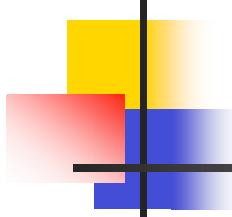




# NDF Digestibility and RFQ

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# Where do the forage samples originate from?

42- States

6- Foreign Countries

Wisconsin – 35%

Minnesota – 23%

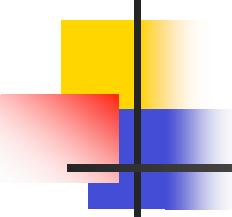
Iowa – 10%

Canada – 7%

South Dakota – 6%

Illinois – 3%

North Dakota – 2%



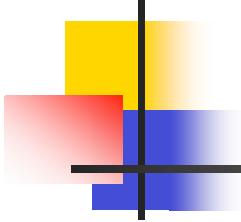
## Laboratory Analysis required

### **Relative Feed Value (RFV) - \$11.75**

- ADF and NDF.

### **Relative Forage Quality (RFQ)- \$19.95**

- NDF Digestibility 48 hours
- TDN – CP, AD-ICP, NDF, Fat, Ash.  
(2001 Dairy NRC)



# NDF Digestibility

$$\text{NDFD} = ((1 - (\text{IVTDMD} - \text{NDF})/\text{NDF})) * 100$$

**NDF** = Neutral Detergent Fiber

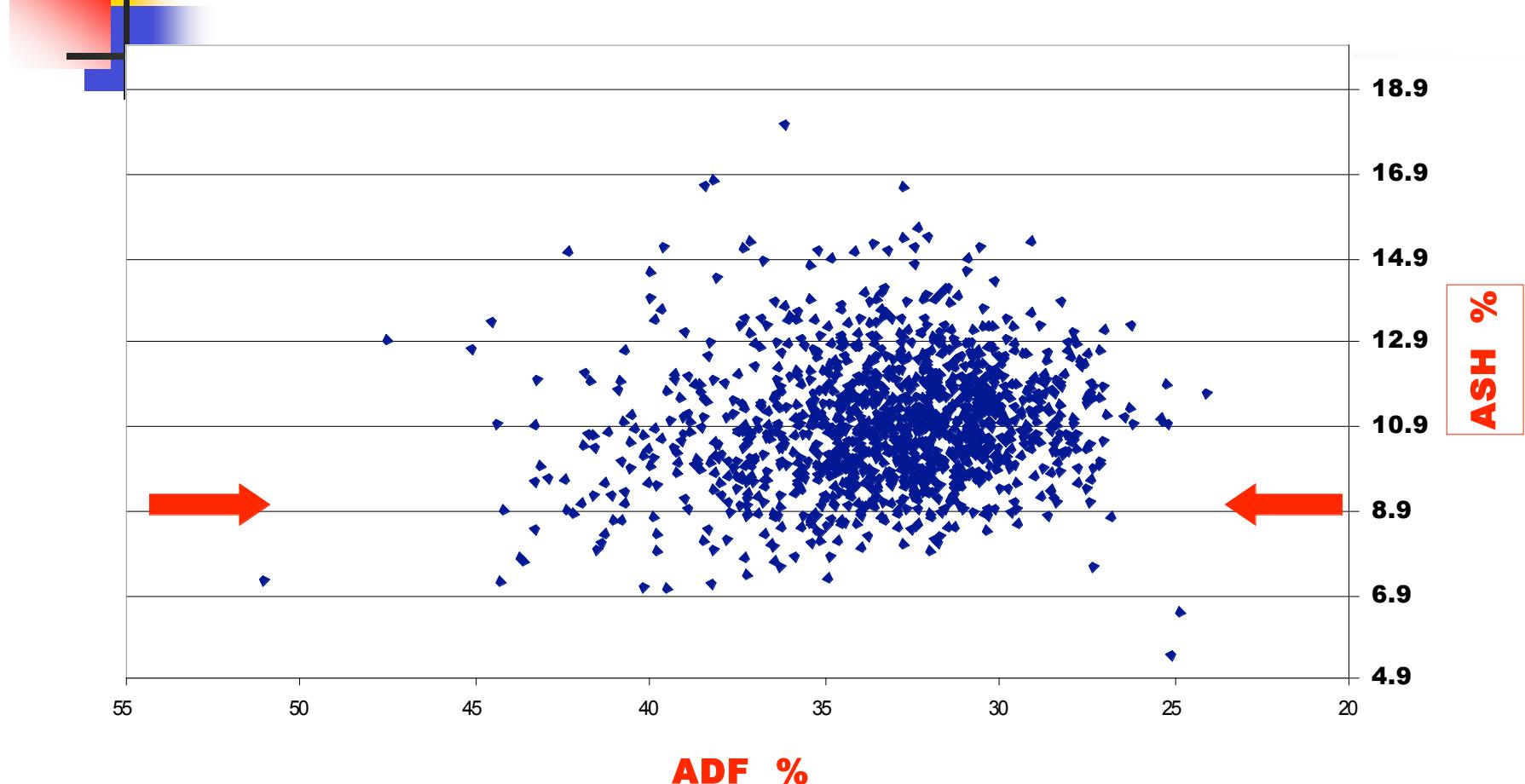
**IVTDMD** = Invitro true dry matter digestibility

**NDFD** = Neutral detergent fiber digestibility

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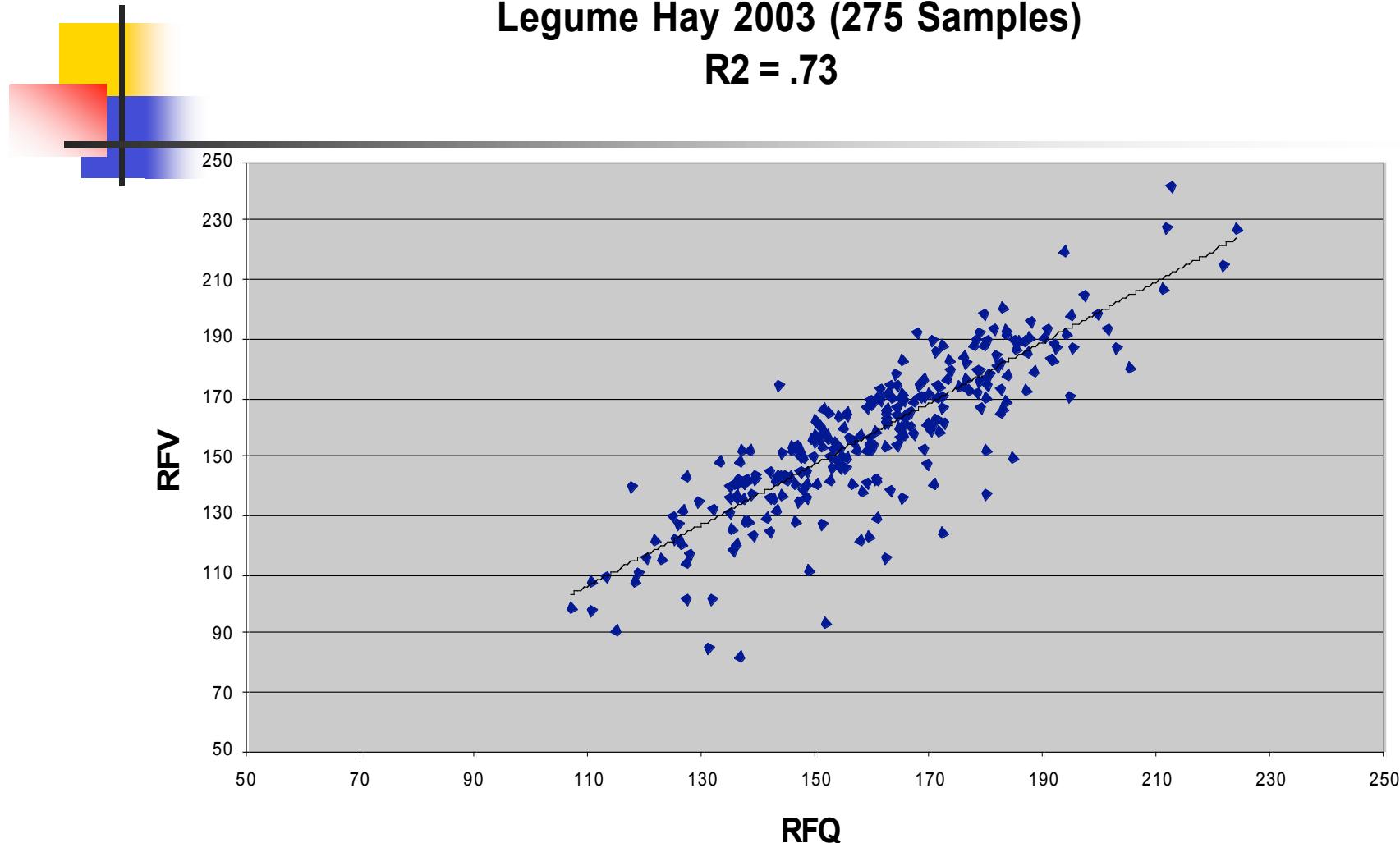
Comparison of actual ash (mean 10.99%) vs. book value (8.9%)  
Dairyland Laboratories - Arcadia, WI (1300 Mixed haylage samples 1998)

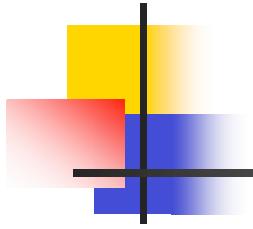


# NDF Digestibility -2003

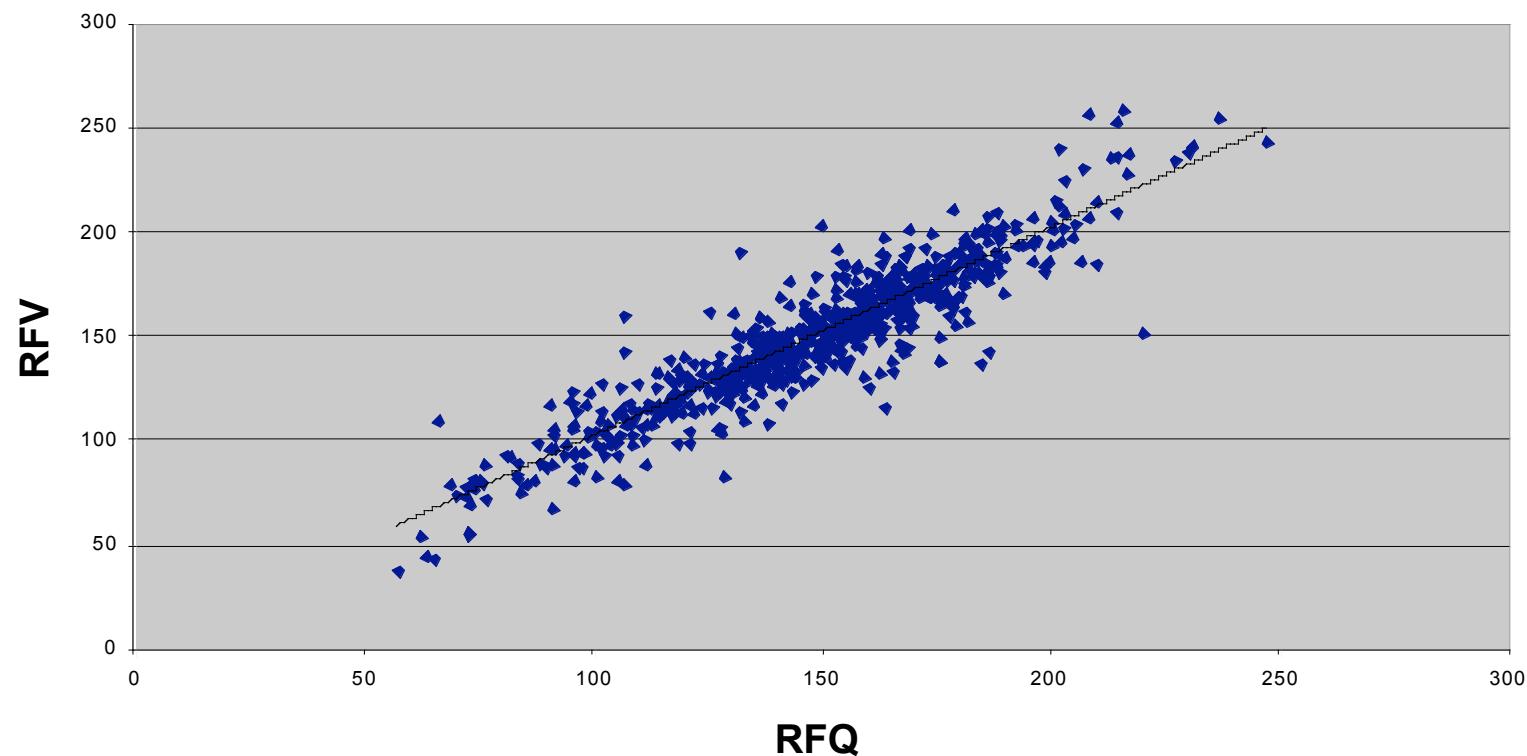
	Mean	Range		Mean	Range
Mixed Hay N= 744	46	56 - 38	Mixed Haylage n=2287	48	63 - 35
Leg. Hay N= 279	44	55 - 37	Leg. Haylage N= 728	47	64 - 38
Grass Hay N= 62	51	63 - 39	Grass Haylage N= 39	57	69 - 45

**Legume Hay 2003 (275 Samples)**  
**R2 = .73**

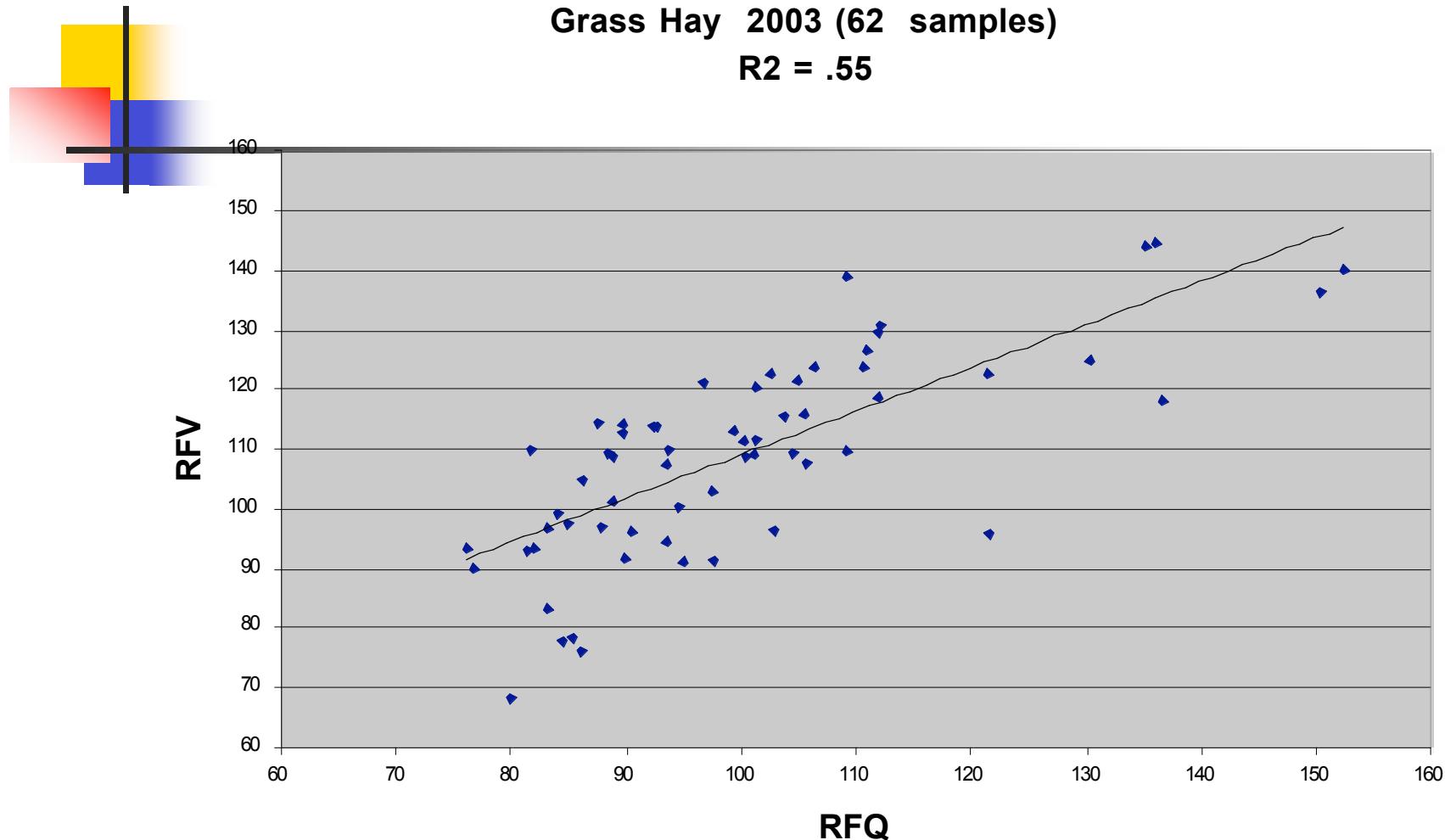


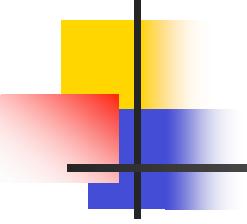


**Mixed Hay 735 Samples**  
**R2 - .84**



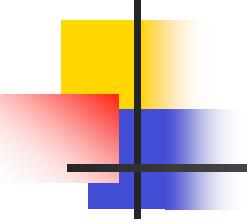
**Grass Hay 2003 (62 samples)**  
**R2 = .55**





## . Questions for further research

- 1) How does NDF Digestibility and RFQ effect Milk production, Beef Production?
- 2) What should be optimum level of NDFD in the ration?
- 3) What factor affects NDF Digestibility?  
Genetics, Environment, Harvesting, Storage,  
Sugar content, Heat Damage Protein.
- 4) What improvements can be made to the in vitro NDFD procedures to improve this measurement.



## **Critical need for an “Intensive Animal Nutrition Laboratory”**

- Address Forage Quality and Utilization.
- Improved Methods for Forage Evaluation
- To improve the link between Laboratory Analysis and cow performance.

# Use of 2001 Dairy NRC for predicting energy.

